

The claimed invention is:

1. A header for use in an optical communications system, the header comprising:
  - a light source capable of generating a light; and
  - an optical fiber having a partially reflective end, the optical fiber being aligned such that the partially reflective end is located proximate to the light source; and
  - a detector configured to provide an output signal based upon the power of the light;wherein the light impinges on an inner surface of said partially reflective end such that a first component of the light reflects substantially along a longitudinal axis of said optical fiber and a second component of the light is transmitted through the partially reflective end to the detector.
2. A header of claim 1 wherein the partially reflective end is formed at an angle.
3. A header of claim 2 wherein the angle is substantially equal to 45 degrees.
4. A header of claim 1 further comprising a transmitting medium, located between the partially reflective end of the optical fiber and the detector, for conducting the second component of light to the detector.

5. ~~The header of claim 4 wherein the transmitting medium comprises glass.~~
6. The header of claim 4 wherein the emitting medium comprises adhesive.
7. The header of claim 6 wherein the adhesive is an epoxy.
8. The header of claim 6 wherein the adhesive is an ultraviolet-cured optical glue.
9. The header of claim 1 further comprising feedback electronics capable of receiving the output signal from the detector and of providing a drive signal to the light source that is responsive to said output signal.
10. The header of claim 1 wherein said substrate comprises a recessed area to receive the light source.
11. The header of claim 4 wherein said light source is a vertical cavity surface emitting laser.
12. The header of claim 4 wherein said light source is an edge emitting laser.

13. ~~The header of claim 1 further comprising an optical receiver proximate to the partially reflective end of the optical fiber, the optical receiver being capable of receiving optical signals from a remote optical transmitter through the partially reflective end.~~

14. The header of claim 13 wherein the optical receiver provides an output communications signal that is responsive to the optical signals.

15. The header of claim 2 further comprising an optical receiver proximate to the partially reflective end of the optical fiber, the optical receiver being capable of receiving optical signals from a remote optical transmitter through the partially reflective end.

16. The header of claim 4 further comprising an optical receiver proximate to the partially reflective end of the optical fiber, the optical receiver being capable of receiving optical signals from a remote optical transmitter through the partially reflective end.

17. The header of claim 16 wherein the optical receiver provides an output ~~communications signal that is responsive to the optical signals.~~

18. A method of coupling light emanating from a light source to an optical fiber, the method comprising the steps of:

providing the light source and a detector on opposing sides of the optical fiber;

aligning the optical fiber such that the light emanating from the light

source impinges upon an inner reflective surface of the optical fiber, forming a first light component that is reflected substantially along the longitudinal axis of the optical fiber and a second light component that is transmitted through the inner reflective surface;

conducting the second light component to the detector; and

monitoring an output signal provided by the detector that is indicative of the intensity of the light emanating from the light source.

19. The method of claim 18 wherein the second light component is conducted to the detector by a prism.

20. The method of claim 18 wherein the second light component is conducted to the detector by an adhesive.

21. The method of claim 20 wherein the adhesive is an optical grade glue.

22. The method of claim 21 wherein the optical grade glue is an epoxy.

23. The method of claim 18 wherein the second light component is conducted to the detector by air.

24. The method of claim 18 further comprising the step of providing a control signal to the light source that is based upon the output signal provided by the detector.

25. A header block for an optical fiber array comprised of a plurality of optical fibers, each optical fiber having a partially reflective end forming a reflective inner surface, the header block comprising:

a plurality of light sources, each light source being associated with one of said optical fibers; and

at least one detector, each detector being associated with at least one light source;

wherein light from each of said light sources impinges upon the inner reflective surface of the associated optical fiber, forming a first light component that is reflected substantially along a longitudinal axis of the optical fiber and a second light component that is transmitted through the inner reflective surface to the associated at least one detector.

26. A header block of claim 25 further comprising at least one aperture between said optical fibers and said detectors for isolating said second light components to an associated detector.

27. The header block of claim 25 further comprising at least one glass element disposed between said optical fibers and said detectors for transmitting said second light components to said detectors.

28. A header of claim 27 further comprising at least one aperture between said at least one glass element and said detectors for isolating said second light components to an associated at least one detector.

29. The header of claim 27 wherein said glass element is a glass plate.

30. The header block of claim 29 further comprising an aperture disposed between said glass plate and said plurality of detectors for isolating said second light components to the associated detector.

31. The header of claim 27 wherein said glass element comprises a beveled surface substantially matched with the optical fibers.

~~32. A header for a fiber optic communications system, the header comprising:~~

- ~~a light source;~~
- ~~an optical fiber capable of receiving a light from the light source and of separating the light into a first light component that is~~
- ~~substantially transmitted through the optical fiber and a second~~

light component that substantially passes through the optical  
fiber;

a medium for transmitting the second light component from the optical  
fiber; and

a light detector capable of receiving the second light component from  
the medium and of providing an output signal based upon the  
intensity of the second light component.

33. The header of claim 32 wherein the medium is a prism.

34. The header of claim 33 wherein the medium is a glass plate.

35. The header of claim 32 wherein the medium is an adhesive.

36. The header of claim 32 wherein the medium comprises an adhesive  
portion and a glass portion.

37. The header of claim 36 wherein the glass portion includes a prism.

38. An optical header comprising:

~~an optical receiver; and~~

~~an optical fiber having a substantially reflective end, the optical fiber~~

being aligned such that the substantially reflective end is located  
proximate to the optical receiver;

wherein at least one incoming light signal impinges upon an inner  
surface of said substantially reflective end such that the at least one  
incoming light signal reflects substantially toward the optical receiver.

39. The header of claim 29 wherein the optical receiver provides a first  
signal that is indicative of the at least one incoming light signal.